Work Order I June-24-13 1:58:56			*103	591*						Page 1
Revision ID:	214-1		Accept	*N900	040	100)* s	etup Start Stop	1.77	S1*
Start Date: 6/24 Required Date: 7/05 Reference:		` '		Cust Item I Customer:	D:					
Approvals: Pro	ocess Plan: MLゴ		Tooling: SPC (Y/N):		ate:		R	un Star	1/1	R1* R2*
Sequence ID/ Work Center ID	Operation Description	·	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr									
D3214	Rev C									i .
∞ *1∩∩*	ENEAR		0.00				6	0		JMB-07-21
Waterjet FLOW CNC Waterjet COCI 1000	DWG R	PER DWG EV: EV:	0.00							
	DEBUR	R								
110	QC2- Inspect parts o	ff machine FAI/FAIB	0.00				6	\sim		JM13-07
QC Quality Control	Memo		0.00							

DQA:			Date:												TO KC
QA Closed:			Date:			WORK ORDER NON	-C(ONFO	RMANCE / UP		Wc	ork Order up	odate only		A E R O S P'A C E
Work Orde						DISPOSITION						PARTMENT		<u> </u>	
WORK Orde	:'· —					Rework	7		المطيعة لمتات	C	\neg		Water Jet	. —	[Fuerine autono []
Part N	io					Scrap	1		Skid-tube Machining	Crosstube Small Fab	\dashv	Pro	d. Eng. Coor	-	Engineering Quality
rarer	· · · –					Use-as-is	1		noforming	Finishing	\neg		re/Packaging	-	Other
NCR N	lo.					Suspected Unapproved	1	11.611	Large Fab	Composite	\dashv	1100,0101	Supplier	\vdash	
							1		·	' L				<u> </u>	
Root					Desci	ription of work order update		initial	Actio	on		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	ption		Date	Verification	on	QC Inspector
Design	_	•													
Doc/Data															
Equip/Tooling	_														
Handling/Pre	_														
Material				:											
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Process															
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111							FA	ULT CA	TEGORY				_		
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	—	ending			-	Bend BOM (Bouts		1	Program			Outside Dim		-	Pressure/Forced
	\vdash		ot Concer	itric	-	BOM/Route	\vdash	Grain				Over/Under		-	Set-up
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	_	rimp/kir üffs	ık/Ripple	/ wave	-	Burrs	\vdash	1 '	ion Incomplete/Unc	`		Part Lost/Mi	_	-	Weld
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	_		ւ ո Strip in	Tubo			-	Mislabe				Power Loss/	ourge		Other
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	_		equence		-	Finish	\vdash	4	Calibration						
		_	ist in Tub			Fit/Function	\vdash	4	Calibration						

Work Order ID 1 June-24-13 1:58:56 PM	03591		*10.3	591*				Page 2
Item ID: D3214-1 Revision ID: Item Name: Decal			Accept	*N9000	<u>0401</u>	იი*	Setup Sta	art *NS1* op *NS2*
Start Date: 6/24/13 Required Date: 7/05/13 Reference:	Start Qty: 6.00 Req'd Qty: 6.00	*6* *6*		Cust Item II Customer:) :			1 + 1 2 + 1
· · · · · · · · · · · · · · · · · · ·	Plan: Date Date		Tooling: SPC (Y/N):	Da				*NR1* *NR2*
Sequence ID/ Work Center ID 112 *112* QC Quality Control	Operation Description QC8- Inspect parts - second check Memo		Set Up/ Run Hours 0.00	Tool ID		Plan Acco	-	Reject Insp. Number Stamp
*120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QS Memo	SI005 4.1	0.00			_6	JA	\$13.7-25
*130 *130* Powdercoat Powder Coating	Black Sandtex(Ref.4.3.5.7) per @ M 3 4 5 Memo START FIME: FINISH	100	0.00 0.00 OVEN TEMPERATURE	3:		_ (6 \$	bl 13 7 25.

DQA:			Date:			•								7	a in the state of
						WORK ORDER NON-	-CC	ONFO	RMANCE / U	PDATE					AEROSPACE
QA Closed:			Date:								W	ork Order up	odate only		
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	-					Use-as-is			noforming	Finishing	-	ł.	re/Packaging	\exists	Other
NCR N	۱٥					Suspected Unapproved			Large Fab	Composite		,	Supplier		
Root					Doss	ription of work order update		nitial	l A of	tion		C: 0	<u> </u>	ī	
Cause		Date	Step	Qty	Desci	or non-conformance	1	initial iief Eng	1	ription		Sign &	Verification		OC Inspector
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	E	Bending				Bend		Folio/P	rogram			Outside Dim	ensions	1	Pressure/Forced
		Centre No	t Concer	ntric		BOM/Route		Grain				Over/Under	tolerance	\Box	Set-up
	\Box	Cracks				Broken/Damage/Defect		Hardwa	ire			Part Incorred	ct [Temperature/Cure
:		Crimp/Kin	ık/Ripple	/Wave		Burrs		Inspect	ion Incomplete/Ur	nqualified		Part Lost/Mi	ssing	\Box	Weld [·]
	\Box	Cuffs				Contamination		Instruct	ions Incomplete/U	Jnclear		Part Moved		\Box	Wrong Stock Pulled
	\square°	Crushing				Countersink		Misalig	ned/off center			Positioned V	Vrong	_	
İ	<u></u>	Heat Trea	t			Cut Too Short		Mislabe	eled			Power Loss/	Surge		Other
		nspection		Tube		Drawing		Misread	t						
	<u> </u>	Marks/Ch	atter			Drill Holes		Off-set							
,	1	Turning Se	equence		<u> </u>	Finish		Out of (Calibration						
	١	Wave/Tw	ist in Tub	e e		Fit/Function	1	Out of	Sequence						

Work Orde	14	3591		*10	3591*						Page 3
Revision ID: tem Name:	D3214-1 Decal 6/24/13	Start Qty: 6.00	*6*	Accept	*N90		100)* s	etup St	. 11	S1* S2*
Required Date:		Req'd Qty: 6.00	*6*		Custome		-	n	· · · · · · · · · · · · · · · · · · ·	out	
Approvals:		n:	Date:	Tooling: SPC (Y/N):		Date:		K		ton	R1* R2*
Sequence ID/ Work Center II 140 *140* QC Quality Control)	Operation Description QC3- Inspect Part Finish Memo		Set Up/ Run Hours 0.00 0.00	Tool ID	O Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* HAAS 1 HAAS CNC vertical	machine #1	Small Fab Memo Engrave text	as per Folio FA394 and	0.00 0.00 Sup Dwg D3214	YIH	B/07/	ં. કેઇ	{	&		
¹⁶⁰ *1հՈ* ^{QC}		QC2- Inspect parts off m	achine FAI/FAIB	0.00	MH	13/07	30	_6	B		

Quality Control

DQA:		<u> </u>	Date:			WORK ORDER NON-	cc	אוברטני	DNANICE / III	DDATE				~DART
QA Closed:			Date:			——			WIAITEL / OI		W	ork Order up	odate only	AEROSPACE
Work Orde	or.					DISPOSITION				AGAINST	DE	PARTMENT	/PROCESS	•
Part N	- No					Rework Scrap Use-as-is Suspected Unapproved		1	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	\vdash	1	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root	T				Desci	ription of work order update	1	nitial	Act	ion		Sign &		
Cause	ļ	Date	Step	Qty		or non-conformance		ief Eng	Descr	iption		Date	Verification	QC Inspector
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved														
Landi							FAL	ULT CAT	TEGORY					
Landii		ear Bending Centre No Cracks Crimp/Kir Cuffs Crushing Heat Trea nspection Marks/Ch	nk/Ripple nt n Strip in natter	/Wave Tube		General Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short Drawing Drill Holes Finish		Grain Hardwa Inspecti Instruct Misalig Mislabe Misread Off-set	ion Incomplete/Ur ions Incomplete/U ned/off center eled	•		Outside Dim Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	tolerance ct ssing Vrong	Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other
	<u> </u>	Wave/Tw	ist in Tub	e		Fit/Function		Out of S	Sequence	·				

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Work Order ID 103591 *103591* Page 4 June-24-13 1:58:56 PM *N900040100* Accept Item ID: D3214-1 Setup Start **Revision ID:** Stop Decal Item Name: Start Otv: 6.00 6/24/13 **Start Date:** Cust Item ID: Rea'd Otv: 6.00 Required Date: 7/05/13 **Customer:** Reference: Run Tooling: Date: Process Plan: Date: Approvals: Stop Date: _____ SPC (Y/N): Date: OC: Reject Tool # Plan Reject **Tool ID** Accept Insp. Sequence ID/ Operation Set Un/ Qty Number Stamp Code Oty Work Center ID Description Run Hours Identify as per dwg & Stock Location: 0.00 180 *120* 0.00 Packaging Memo Packaging

190

OC21- Final Inspection - Work Order Release

0.00

100

QC

Memo

0.00

Quality Control

MCJ 13-08-01

DQA:			Date:											7	
QA Closed:			Date:			WORK ORDER NON	-C(ONFO	RMANCE / UI		Wo	ork Order up	odate only	П	A E R O S P'A C E
Work Orde	er:					DISPOSITION				AGAINST	DEF	PARTMENT	/PROCESS	•	
WOTK OTCO						Rework	1		Skid-tube	Crosstube			Water Jet		Engineering
Part N	No.					Scrap	1		Machining	Small Fab	\neg	Pro	d. Eng. Coor.		Quality
	_				_	Use-as-is	1		noforming	Finishing			re/Packaging	\blacksquare	Other
NCR N	No					Suspected Unapproved]		Large Fab	Composite			Supplier		
Root					Desci	ription of work order update		Initial	Act	ion		Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descr	iption		Date	Verificatio	n	QC Inspector
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	$\boldsymbol{\vdash}$	Bending				Bend		4	Program		Н	Outside Dim		igsqcup	Pressure/Forced
	\vdash		ot Concer	ntric		BOM/Route	_	Grain				Over/Under	tolerance	Щ	Set-up
	-	Cracks			<u> </u>	Broken/Damage/Defect	<u>_</u>	Hardwa			\vdash	Part Incorred			Temperature/Cure
	\vdash	-	nk/Ripple	/Wave		Burrs		1	ion Incomplete/Ur		\vdash	Part Lost/Mi	-	Ш	Weld
	\vdash	Cuffs				Contamination	<u></u>	4	ions Incomplete/U	Jnclear	H	Part Moved			Wrong Stock Pulled
	\vdash	Crushing			-	Countersink		1	ned/off center		-	Positioned V	-		
	\vdash	Heat Trea			ļ	Cut Too Short	<u></u>	Mislabe				Power Loss/	Surge		Other
	\vdash		n Strip in	Tube		Drawing		Misread							
	\vdash	Marks/Ch				Drill Holes		Off-set							
	\vdash	Turning S	-		<u> </u>	Finish		Out of	Calibration						
	ılı	Nave/Tw	ist in Tub	16	- 1	Fit/Function	1	Out of	Seguence						

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June-24-13 1:58:55 PM

Work Order ID:

103591

Parent Item:

D3214-1

Parent Item Name:

Decal

Start Date: 6/24/13

Required Date: 7/05/13

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP A04.04.15New issueKJ/RF

IPP Rev:B Now 6061-T6 06-06-23 JLM

IPP REV C:NOW ON WATERJET

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.080		Purchased	No			110	sf	287.8100	0.0743	0.469263		Ta	13-07-
6061-T6 .080 Sheet									e	1.0		<u> </u>	113-0 3
				Location		Loc Oty	<u>Lo</u>	c Code					
				MAT		0.2							
				1245	572	0.2							
				MAT021		287.61							
				m12	5812	287.61							
									126	309			

DQA:			Date:				WORK ORDER NON-CONFORMANCE / UPDATE						TONCE
QA Closed:			Date:			WORK ORDER NON	-CC	ONFO	RMANCE / UF		Vork Order uj	ndate only	AEROSPACE
QA Closed.			Date.							v	voik Order di	puace only	
Work Orde	er:					DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	
	_				_	Rework	1		Skid-tube	Crosstube	٦	Water Jet	Engineering
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	-					Use-as-is			moforming	Finishing		re/Packaging	Other
NCR N	No.					Suspected Unapproved	1		Large Fab	Composite		Supplier	
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Root					Desci	ription of work order update		nitial	Acti		Sign &	:	
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Offset/Setup	Н											<u> </u>	
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Training	Н												
Transport		•				•							
Unapproved	Щ		1		<u> </u>		EA	III T CA	TEGORY			L	
Landi	na G	ear				General	FA	OLI CA	TEGORT		<u> </u>		
Landi		Bending				Bend	Г] Folio/F	Program	Г	Outside Dim	nensions [Pressure/Forced
	\vdash	Centre No	nt Concei	ntric		BOM/Route	\vdash	Grain	Togram	F	Over/Under	 	Set-up
	${}\dashv$	Cracks	or contect		-	Broken/Damage/Defect	\vdash	Hardwa	are	. }	Part Incorre	⊢	Temperature/Cure
•	-	Crimp/Kir	nk/Ripple	/Wave		Burrs	\vdash	1	tion Incomplete/Un	gualified	Part Lost/M	⊢	Weld
	-	Cuffs	,	,,		Contamination	-	1	tions Incomplete/U	· -	Part Moved	- I	Wrong Stock Pulled
		Crushing				Countersink	H	4	gned/off center	<u> </u>	Positioned \	<u> </u>	
	_	Heat Trea	at			Cut Too Short		Mislab	-	-	Power Loss/	_	Other
	$\boldsymbol{\vdash}$	Inspectio		Tube		Drawing		Misrea		L	<u> </u>	~ <u>_</u>	<u> </u>
	-	Marks/Ch	· · · · · · · · · · · · · · · · · · ·			Drill Holes		Off-set		•			V.
	Н	Turning S				Finish		4	Calibration				•
	П	Wave/Tw	ist in Tuk	ne.		Fit/Function	Out of Sequence						

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Ø 0.098_ 4PL R0.03 0.50 B 2.70 0.13 0.19 0.35 ---8 0.19TYP TYP

SHOPTOR $_{1}$ N($_{2}$ \sim TONOMINE LITTLE SCHOOL TON W11 1-1-10 VyOSC, XX 13-06-25

В

D3214-1 PLACARD

NOTES:
1) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027), 0.080 THICK REF DART SPEC M061T6S.0.08 OR 5052-H32/H34 (PER QQ-A-250/8 OR AMS 4016), 0.080 THICK REF DART SPEC M5052H32S.0.080
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: N/A
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: LESS THAN 0.010 lbs

7) WEIGHT: LESS THAN 0.010 lbs 8) ENGRAVE ALL LETTERS TO A DEPTH OF 0.005 USING A TOOL RADIUS OF 0.039 AFTER POWDER COAT.

FORMAT TO CURRENT STDS; 3 HOLES ADDED; Ø0.098 4PL WAS 1PL. REF PAR12-186 С SFM 13.01.15 В ADD 6061-T6 MATERIAL CB 06.05.29 Α NEW ISSUE СВ 64.01.27 REV. DESCRIPTION BY DATE DESIGN **DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA DRAWN DRAWING NO. CHECKED REV. C D3214 MFG, APPR. SHEET 1 OF 1 APPROVED TITLE SCALE DE APPR. **PLACARD** COPYRIGHT © 2004 BY DART AEROSPACE LTD
THIS COCUMENT OF PRIVATE AND CONCENTRAL AND IS SUPPLED ON THE PRIMARY AND TO BE USED ON THE PRIMARY AND NTS DATE 13.01.15

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D

DART AEROSPACE LTD	Work Order: 10159/
Description: Placaco	Part Number: 193214-1
Inspection Dwg: ()30 4 Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.70"	11-0.030"	3.703"	_		U	Ano:
2.70"	4-050	2.704"	-		V	
00.098"	40004-0-001	0.100	-		V	
0.19"	41-0.0304	<u>(5.198</u> °			V	
0.19"	H-0.030"	0.196	-		V	
0.080"	4-0-010	1°F6.0	-		V	
.50	.18Wp ± .030	12:			NH-04	Caliper
-13	t.Bo	. 14	J]	
						,
						-
		" '				

- and	1 240	
Measured by: JM /14 13/07/30	Audited by:	Preliminary Approval:
Date: 13-07-21	Date: 13 7 00	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

A 10.04.15